User defined Soil

Posted by agfe - 2008/06/29 12:51

Shall anyone let me know is it poosible to use a user defined soil in AGWA. If yes then how to use a user defined soil for SWAT modeling in AGWA.

It is urgent for my dissertation work.

Thanks for reply

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Re:User defined Soil

Posted by isburns - 2008/07/02 20:30

Hi,
I'm moving your post into the other section "Questions and Troubleshooting" because this section is for users to provide feedback and suggestions for the tool.

Anyway, there is no easy way to use user-defined soils in AGWA. It can be done, but there are easier alternatives.

Option 1, have you considered just using FAO soils? Even if you have a higher resolution soil map with different parameters, surprisingly this may not make much of a different. I am including a reference to a proceedings paper in which we compared FAO, STATSGO, and SSURGO for the same watershed and found comparable uncalibrated results for all three. Calibration would essentially remove the remaining differences and if your primary interest is in flows at the outlet (rather than spatially distributed changes across the watershed), then using a high resolution soil map wouldn't be worth the effort. In the Publications section of the site, see Levick, L.R., D.J. Semmens, D.P. Guertin, I.S. Burns, S.N. Scott, C.L. Unkrich, and D.C. Goodrich, 2004. Adding Global Soils Data to the Automated Geospatial Watershed Assessment Tool (AGWA). In: Proceedings, 2nd International Symposium on Transboundary Waters Management, Tucson, Arizona, Nov. 16-19, 2004.

Option 2, run the parameterization with FAO soils and then manually edit the subwatershed attribute table and , if you're using SWAT, also the _temp_soil_lut table in the geodatabase for your delineation/discretization. This option would involve computing the necessary input parameters yourself by intersecting your own soil map with the discretization, computing soil-related model input parameters for each soil type, and then area and depth weighting those values in each watershed element. Once you compute the necessary parameters for each watershed element you can adjust the values in the discretization attribute table (and the _temp_soil_lut if necessary), save the edits, and continue running AGWA as normal. Your new values will not be overwritten unless you re-run the land cover and soils parameterization. This option would be best if there are a limited number of soil types and watershed elements in the discretization, and/or you are not running AGWA on many different watersheds.

Option 3, force your data into one of the formats that AGWA supports. This requires you to know the underlying structure in each of the datasets, what the fields represent in the dataset you choose, the valid domains for all of the fields, and how all the different tables in the dataset work together. If you don't have a full grasp on these things, you may not be representing what you think. This would be a better option then Option 2 if you're planning on running many different delineations and discretizations

because you wouldn't have to repeat the Option 2 process for each.

Shea

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Re:User defined Soil

Posted by astute - 2008/08/27 13:46

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Many Thanks to Ms.Shea
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Chrishy

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